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## Outdoor Community Based Rehabilitation Program Development

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**Outdoor Community Based Rehabilitation Program Development at  
Oroville Hospital**

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**OT 7202: Capstone Experience and Project**

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### **Abstract**

The purpose of this capstone paper is to promote Outdoor Community Based Rehabilitation (CBR) as an adjunctive therapeutic approach to traditional treatment for rehabilitation professionals working in outpatient settings. The primary objective of this project was to create a comprehensive program proposal for an Outdoor CBR program for patients receiving outpatient services at Oroville Hospital. It included creating program activities, a patient referral process, identifying possible community partners, locating applicable grants, determining program staffing, as well as creating a workable budget, which included overall activity costs, staffing costs, equipment costs and reimbursement procedures. (See appendix A and B) The program proposal for the Outdoor CBR program at Oroville Hospital was modeled after the Craig Hospital Adventure Alumni Program and the Casa Colina Hospital Adventure Program, which have both been in operation for over 30 years. The goal of this project as it relates to the field of occupational therapy was to develop a plan for a non-traditional program that utilized occupation as both a means of intervention and as a goal for treatment; as an intervention strategy it embodies physical, social, and mental health benefits through community re-integration and provides patients opportunities to practice learned skills in uncontrived environments. Outdoor and Natural environments are underutilized settings for the rehabilitation of individuals with injuries and or disabilities, despite evidence indicating their therapeutic benefit when compared to traditional practice settings alone. Natural environments provide innate opportunities and challenges that cannot be achieved in contrived indoor settings, and they allow patients to practice learned skills in real world contexts.

## **Introduction**

The ACOTE concentration area for my Doctoral Capstone Experience (DCE) was Program Development. The primary objective of my project was to complete a program proposal for an outdoor community-based rehabilitation program within the Outpatient Rehabilitation Department at Oroville Hospital in Oroville, California (See Appendix A). The primary patient population at the site was community dwelling adults with neurological or orthopedic conditions. My site mentor was Jennifer White, M.A., CCC-SLP and the Speech Language Pathology Supervisor, whom had experience with program development, reimbursement/billing, and creating budgets.

## **Literature Review**

### **Purpose Statement:**

The purpose for this literature review is to draw comparisons between non-traditional outdoor rehabilitation approaches, traditional treatment approaches and Community Based Rehabilitation (CBR); to provide an evidenced based rationale for incorporating outdoor based rehabilitation into contemporary practice and to promote the use of outdoor community-based rehabilitation (CBR) as an adjunctive therapeutic approach to traditional treatment for Occupational Therapists, Physical Therapists, and Speech Language Pathologists providing treatment to community dwelling individuals with disabilities in outpatient settings.

### **Introduction:**

Over the last decades, research on the association between human health and natural environments has developed into an interdisciplinary research field, which is being carried out in many parts of the world (Zhang et al., 2017). According to previous research, natural

environments have a positive impact on human health by reducing the time it takes to recover from stressful events, reducing mental fatigue, increasing social ties, and encouraging people to engage in more physical activities (Zhang et al., 2017, Jiang et al., 2014, Sullivan 2015, Holtan et al., 2015, Barton & Pretty, 2010). Contemporary practice has started to rethink use of outdoor environments for advancing comprehensive rehabilitation outcomes for people with disabilities (Dorsch et al., 2016, Madsen, Nielsen, Oliffe, Handberg et al., 2021).

In developed countries, conventional rehabilitation programs are typically delivered indoors, relying on health professionals who use state of the art equipment and measurement tools to ensure effective rehabilitation. However, ever growing complexities for treating acute and chronic conditions demand progressive approaches, and everyday outdoor environments have emerged as affording additional avenues to providing rehabilitation. (Madsen, Nielsen, Oliffe, Handberg et al., 2021) Based on work of Malkmus (1989) and Veletutti and Drummett (1992); Hartley (1995) identified how rehabilitation occurring in a natural environment can be viewed as a philosophy of rehabilitation, an intervention strategy and as a guide to the content of intervention. As a philosophy it encompasses the value of real-life roles and responsibilities, and it emphasizes the development of social competence. As an intervention strategy it employs a top-down approach, identifying typical roles the person must fulfill and the competencies needed for this are then the target or content of intervention. This means that skills must be taught through actual experience and practiced in natural contexts wherever possible. (Shanahan et al., 2009; Hartley, 1995; Veletutti & Drummet, 1992; and Malkmus, 1989)

### **Theoretical Frameworks**

In the literature one of the most empirically supported and widely applied approaches to explain benefits of exposure to nature is Kaplans attention restoration theory (ART). ART focuses on the psychosocial benefits and hypothesizes that nature has the capacity to renew attention after exerting mental energy and thereby supporting the restorative process of human health (Madsen, Hanberg, Jensen, Nielsen, 2021; Kaplan & Kaplan, 1989). Enhanced attentional recourses may be particularly important for patients who are being treated for head injuries or stroke. Self Determination Theory (SDT) is another theory that has been utilized to explain the benefits of outdoor rehabilitative programs and focuses on how self-determination, being in control of one's life, is essential for health and well-being. This theory proposes that humans have three innate psychological needs that are the basis for intrinsic motivation: autonomy, competence, and relatedness. Autonomy is the perception of being in charge of one's own behavior and initiative. Competence refers to the feeling of being competent and capable to progress and develop using acquired skills. Relatedness is a feeling of belonging and being part of a social environment in order to thrive. Meeting these three basic needs helps to motivate the initiation and long-term maintenance of health promoting behaviors (Andkjaer et al., 2021; Silva et al., 2014). For some activities that take place in a context requiring an involvement of different human systems, health effects may fall into the category of occupational adaptation. Occupational adaptation premises that humans need to respond to different occupational challenges to promote their health and well-being, and posits that these challenges take place in a context of a combination of physical, social, and cultural systems (Zhang et al., 2017)

Supportive Design theory relates that an environment can buffer stress and provide restorative effects to the degree it provides for physical movement, exercise, social support, a sense of control and distraction by nature, while also providing for a sense of safety and security (Ulrich, 1999). A salutogenic view places the focus on the relationship between an individual's subjective well-being, the available resources, and the context of the situation. It views health and well-being along a continuum, enhanced through meaningful engagement and resources; rather than one premised on a resolution of health factors (e.g., remediation of disease or deficits). This view aligns well with rehabilitation in which focus is not only towards physical and mental improvement, but also towards maximizing an individual's ability to function in the environment with their current skills (e.g., activity adaptation, compensation for individual abilities or modification of environments). The basic principles of salutogenic theory are that an individual's sense of coherence influences their subjective well-being. This sense of coherence is based on an understanding of the situation (comprehension), finding something meaningful to pursue (meaningful engagement) and the ability of the resources to meet their needs (compatibility). (Antonovsky, 1996)

**OEE and WAT:**

Wilderness Adventure Therapy (WAT) is an exemplar of contextualized rehabilitation programs in which individuals practice skills through actual experience, within real contexts (Shanahan et al., 2009). Wilderness Adventure Therapy (WAT) relies on teaching through experiences in natural contexts, and consequentially, can be considered a contextualized intervention. It is an intervention strategy that has been extensively used with the at-risk youth population to combat behavioral, self-esteem, and social integration difficulties (Shanahan et

al., 2009). WAT stems from the more widely known practice of Outdoor Experiential Education (OEE), which is a combination of environmental and adventure education with the aims of increasing participants awareness of the environment with which they engage, facilitates personal and social development (Shanahan et al., 2009), and incorporates a variety of therapeutic modalities (Zhang et al., 2017). Shanahan (2009) highlights that the key elements of WAT programs are that: intervention occurs in a natural setting (wilderness), a group format is used, emphasis is placed on the active involvement of participants, an element of risk (perceived and or real is present) in activities, and therapeutic focus is maintained (i.e., purposeful use of activities and sequential/incremental programming). It is evident, however, that these principals are not unique to WAT, but rather are the bases for many cognitive and cognitive behavioral therapeutic approaches just as modeling, positive and negative reinforcement, consequential learning, and schemata development are used effectively in cognitive rehabilitation programs.

WAT has been used with a variety of clinical and disabled populations such as at-risk youth, adjustment related post-traumatic stress disorder (PTSD), learning difficulties, spinal cord injury (SCI), substance use disorder (SUD), mental health in oncology, adolescent obesity, eating disorders and traumatic brain injuries (TBI) (Shanahan et al., 2009). While the literature that examines the efficacy of outdoor education clearly indicates its value as an adjunct to mainstream rehabilitation services, Shanahan (2009) reiterates findings of numerous researchers over the past 40 years expressing concerns of endorsing the findings of WAT programs due to the methodological limitations in studies supporting Wilderness Adventure



Therapy Programs. However, it is acknowledged that many of the limitations are directly linked to the inherent difficulties of conducting field research with populations with special needs.

### **Community Based Rehabilitation (CBR):**

Community Based Rehabilitation (CBR) is a treatment approach that started in the 1970's with the aim of providing low tech rehabilitation services to persons with disabilities in low-income countries. It has since been adopted as a community development strategy that aims to promote, support, and implement rehabilitation activities at the community level and facilitate referrals to access more specialized rehabilitation services (Madsen, Hanberg, Jensen, Nielsen, 2021) In 2004, CBR was defined by the International Labor Organization (ILO), United Nations Education, Scientific and Cultural Organization (UNESCO) and The World Health Organization (WHO), as a strategy within general community development for the rehabilitation, equalization of opportunities, poverty reduction and social inclusion of all people with disabilities. CBR is implemented through the combined efforts of people with disabilities themselves, their families, organizations and communities, and the relevant governmental and non-governmental health, education, vocational, social, and other services (World Health Organization, 2010) Reported CBR outcomes include increasing independence, improved mobility and enhanced social participation among people living with disabilities (World Health Organization, 2010). Concurrently, increasing awareness of the various health benefits for contact with outdoor environments has led to the growth of nature-based rehabilitation programs (Madsen, Nielsen, Oliffe, Handberg et al., 2021). Madsen (2021) highlights the documented health benefits of nature-based rehab programs include increased physical activity (Maas et al., 2008; Pretty et al., 2005) social connectedness (Hartig et al., 2014; Maas et al.,

2009) enhanced mental well-being (Bolwer et al., 2010; Jakubec et al., 2016) and reduced stress levels (Kondo et al., 2018; Sahlin et al., 2015).

Outdoor settings have been widely recognized as health promoting contexts (Madsen, Hanberg, Jensen, Nielsen, 2021; World Health Organization, 2016; Bowler et al., 2010), adding physical, social, and mental health benefits for people with disabilities (Zhang et al., 2017; Jakubec et al., 2016). This information has resulted in more nature-based initiatives for this population. However, these initiatives are primarily provided in formalized outdoor settings and lack an inclusive community approach. (Madsen, Hanberg, Jensen, Nielsen, 2021; Moeller et al., 2018) Madsen, Hanberg, Jensen and Nielson (2021) conducted a systematic review of qualitative articles on nature-based rehabilitation initiatives and the CBR approach and their analysis revealed four central themes, which included ability to overcome challenges, outdoor adaptive activities, inclusive social communities, and a culture of reciprocal interaction. Their findings indicated that participants with disabilities experienced that their ability to overcome challenges was empowered by CPR approaches in outdoor settings. The empowering experiences depended on support and social engagement from professionals to reinforce beliefs and a desire to regain loss of functioning.

Overall involvement in CBR approaches in outdoor settings seemed to positively influence the functional capacity of people with disabilities. Rather than dwelling on their disability, they attempted to constantly improve their level of functioning and learn new strategies. The confidence gained through engagement in the CBR in outdoor settings was suggested to extend beyond the program setting and be transferred to other aspects of life involving family, friends, and job opportunities. The adaptive aspects of outdoor activities were

obtained through support and availability of professionals and use of assistive devices.

Involvement in outdoor adaptive activities was demonstrated to help participants adjust to the dramatic life changes caused by disability and to provide new life opportunities. The change to an outdoor setting, seemed to underpin and strengthen comprehensive and holistic orientation to the delivery of CBR approaches and outdoor settings empowered people with disabilities to play a more active role in their rehabilitation, but also repositioned professionals to be sources of help rather than experts in the interaction. For individuals to obtain an independent and meaningful life, it is essential to learn how to cope with and overcome possible challenges in environments that are comparable to what they would encounter in everyday life (Madsen, Hanberg, Jensen, Nielsen, 2021). In a qualitative study using Social Determination Theory for analysis and interpretation of results, Andkjaer (2021) concluded that outdoor health promotion and rehabilitation programs are successful in promoting self-perceived health through increased competence, autonomy, and relatedness for adults with mental or chronic physical health problems. Moving away from a purely health professional approach and including other elements embedded in “being and doing in nature”, seems to be a good way to address people in local health promotion and rehabilitation programs.

### ***Health Benefits: Physical, Mental and Social***

A systematic review by Zhang et al., (2017) evaluated the scientific evidence for health benefits of natural environments for people with mobility impairments. Literature searches based on five categories of terms included target group, nature type, health related impacts and nature related activities and accessibility issues were conducted in four databases, which included Web of Science, Scopus, CAB ABSTRACT and Medline. Twenty-seven articles from 4196

hits were included in the systematic review and included quantitative, qualitative, and mixed-method studies. Zhang et al., (2017) states, according to research, natural environments have a positive impact on human health by reducing the time it takes to recover from stressful events, reducing mental fatigue, increasing social ties, and encouraging people to engage in more physical activities (Zhang et al., 2017, Jiang et al., 2014, Sullivan 2015, Holtan et al., 2015, Barton & Pretty, 2010). While the research has not yet determined causality, it can be inferred that the collective amount of research evidence confirms that both visual and physical contact with natural environments is beneficial to human health. Current research also suggests that there are synergies between human health and natural environments based on for example, demonstration of the greater health effects of being physically active in a natural environment compared with being physically active indoors (Zhang et al., 2017; Hug et al., 2009).

**Physical Health Benefits.** Zhang et al., (2017) highlights numerous studies that indicate the physical health benefits of engaging with natural environments for individuals with disabilities. Two studies pointed out that participating in nature related activities improved the target groups overall life skills as well as the skills needed to participate in the activities. An SCI patient who participated in sea kayaking experienced improved strength and stamina. Nature based activities such as canoeing are believed to be an ideal therapeutic approach for individuals with disabilities to acquire and perform various skills in a naturally complex functional setting. In five studies, Parkinson's disease (PD) patients improved their mobility measured as a change in their symptom indicators and these benefits were usually more significant than rehabilitation activities carried out in non-nature environments. PD patients also experienced health benefits such as improved cardio-respiratory capacity with significantly

lower and stable heart rate and blood pressure during exercise. These benefits appeared immediately following the activity and many of the benefits transferred into lasting effects in the patient's subsequent daily life. Some of the researchers believed that long term health benefits may be due to the lifestyle change that led the patients to be more physically active, or that they were due to the patients improved self-confidence and self-motivation after having participated in physically challenging activities in natural environments. Also, there is a view that nature reduces some illness-related symptoms by acting as a space that conveys no danger compared to the human-built environment. This is based on the result that freeze of gait (FOG) symptoms in PD participants are only absent in natural environments where there are no human-built structures (Zhang et al., 2017).

**Mental Health Benefits.** Zhang et al., (2017) references various studies that indicate the mental benefits for individuals with disabilities participating in natural environments. Participants in three studies expressed better mood and relaxation after participating in nature-based activities. Elderly patients with varying mobility levels were less stressed after time spent in in an outdoor natural garden environment than the control group who spent the same amount of time in an indoor garden environment as evidenced by reduction of cortisol levels. In other studies participants expressed pain relief, improved cognition, and a sense of freedom and revitalization after spending time in nature. In three studies participants frequently expressed that they felt enslaved by illness but realized after participation in the activities that they could in fact accomplish things despite their disabilities. SCI patients who participated in a sea kayaking program expressed that the feeling of being free from their wheelchair afforded them feelings of equality. They believed that the experience made them more capable of

coping with difficult circumstances and that it was a good way to reduce stress, build self-confidence and self-esteem. In another study adolescents with limb differences who participated in a skiing program achieved better self-esteem by acknowledging what they could accomplish despite their disabilities (Zhang et al., 2017).

**Social Health Benefits.** Based on 5 studies, Zhang et al., (2017) describes the social benefits of engaging in nature-based activities for individuals with disabilities. The social benefits associated with fishing were found to be significantly higher for anglers with disabilities compared to anglers without disabilities. These benefits were associated with disability status rather than other demographic information such as age. Individuals with disabilities participating in a wilderness canoeing trip demonstrated significant improvement in social health, including increased tolerance of others, increased comfortability when meeting new people, and increased involvement in society. Gardening programs enhanced social interactions and communication skills for a variety of groups. A case study of an amputee in Norway expressed that he enjoyed socializing with people after reconnecting with nature following an extended stay in a nursing home and hospital. When engaging in outdoor activities such as skiing, participants may experience increased social health due to the support that is provided by families and friends. The body of research suggests that nature is an ideal setting for social interactions and activity engagement (Zhang et al., 2017)

#### **Outdoor Rehabilitation: Occupational and Physical Therapy.**

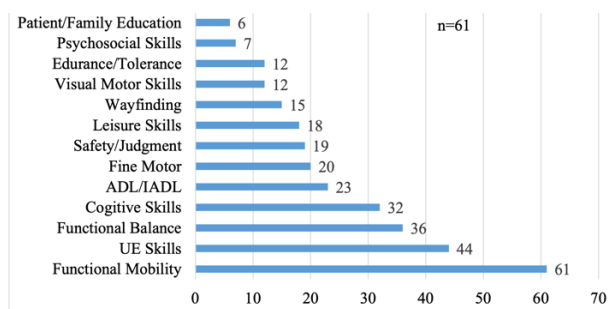
An exploratory study was conducted by Haering (2016) using a multimodal approach of both qualitative and quantitative data to gain a more comprehensive understanding of the use of outdoor environments by occupational and physical therapists working in inpatient

rehabilitation facilities. 50 Occupational and Physical therapists representing nine climate regions participated in the survey portion of the study, and 18 physical/occupational therapists participated in interview portion of the study. In total 68 physical/occupational therapists participated in either the interview or survey. Of the 68 respondents, 90% (n=61) reported that outdoor environments were perceived as a valuable resource, with 82% (n=41) stating that the outdoor setting allowed for problem solving in real life situations in ways that were not possible in the indoor setting. Four themes emerged regarding the value of the outdoor environment as a resource for treatment which included, affordances that support treatment goals, psychosocial benefits, opportunities for meaningful participation and patient satisfaction. The ability to support patient treatment goals, or affordances provided by the environment was the most frequently cited reason by all respondents for use. These affordances included the provision of real-life situations, novel situations, being able to address goals not able to be addressed in the indoor environment and being able to address goals in a different context. Respondents also indicated that outdoor environments allowed them to address challenges in an uncontrolled environment, facilitate vocational and avocational skills; and assess safety and judgement in real situations. The outdoor setting was also reported as providing unexpected situations which allowed therapy staff to assess skills, and or enhance a patient's ability to address real life situations.

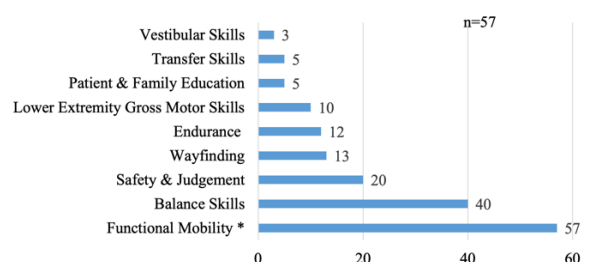
Common goal areas reported (n=68) as being addressed by both disciplines, were functional mobility, dynamic balance/functional balance, safety and judgement, endurance/tolerance, wayfinding, and patient/family education. Functional mobility was the goal area perceived as the most supported by environmental features with (n=61) for

occupational therapy and (n=57) for physical therapy. Dynamic balance/functional balance skills were also perceived as being well supported for occupational therapy (n=36) and for physical therapy (n=40). Other goals frequently cited as being supported in outdoor environments for occupational therapy included upper extremity skills (muscle strength, range of motion, and coordination (n=44), cognitive skills (n=32), and activities of daily living (ADL's) and instrumental activities of daily living (n=23). Goal areas that were less frequently mentioned by respondents included fine motor skills, safety and judgment, leisure skills, wayfinding skills, visual-motor skills, endurance tolerance, psychosocial skills and patient family education, lower extremity gross motor skills, transfer skills and vestibular skills (Haering, 2016).

#### Occupational Therapy Goals: Supported



#### Physical Therapy Goals: Supported



#### **Conclusion:**

Outdoor settings have been widely recognized as health promoting contexts (Madsen, Hanberg, Jensen, Nielsen, 2021; World Health Organization, 2016; Bowler et al., 2010), adding physical, social, and mental health benefits for people with disabilities (Zhang et al., 2017; Jakubec et al., 2016). Contemporary practice has started to rethink use of outdoor environments for advancing comprehensive rehabilitation outcomes for people with disabilities (Dorsch et al., 2016, Madsen, Nielsen, Oliffe, Handberg et al., 2021), and Occupational



Therapists, Physical Therapists, and Speech Language Pathologists are well suited to utilize outdoor community based rehabilitative approaches (CBR) as adjunct to traditional treatment. Reported CBR outcomes include increasing independence, improved mobility and enhanced social participation among people living with disabilities (World Health Organization, 2010). Individuals with disabilities have expressed that outdoor based CBR programs enhanced their ability to overcome challenges and increased their self-confidence. The confidence gained through engagement in the CBR in outdoor settings was suggested to extend beyond the program setting and be transferred to other aspects of life involving family, friends, and job opportunities.

Overall, based on the evidence from included studies we know that nature does have positive health impacts for individuals with disabilities. However, more rigorous quantitative randomized control trials and longitudinal studies that focus specifically on evidence-based health impacts of outdoor based rehabilitation programs for individuals with disabilities is needed. Furthermore, inconsistent use of terms addressing CBR approaches can cause ambiguity and complicate development and delivery of successful CBR initiatives. In order to benefit from the link between CBR approaches and outdoor settings, there should be emphasis on a more joint use and understanding of CBR in outdoor settings.

### **Needs Assessment**

Outdoor and Natural environments are underutilized settings for the rehabilitation of individuals with injuries and or disabilities, despite evidence indicating their therapeutic benefit when compared to traditional practice settings alone. Natural environments provide innate opportunities and challenges that cannot be achieved in contrived indoor settings, and they

allow patients to practice learned skills in real world contexts. There are currently only handful of hospitals in the United States that offer outdoor based rehabilitation programs as an adjunct to traditional treatment. The most established hospital based outdoor rehab programs include Craig Hospital's Adventure Alumni Program, Casa Colina Hospital's Adventure Program and Shepard's Center Outdoor Recreation Program. (For more details on the programs at Craig Hospital and Casa Colina Hospital see Appendix A) The primary goal of this project was to create a program proposal for an Outdoor Community Based Rehabilitation Program at Oroville Hospital, in Oroville California, with the hopes of obtaining program approval and one day achieving program implementation.

### **Objectives Achieved during the Capstone**

The objectives of my capstone experience were established in collaboration with my site mentor Jennifer White and approved by the University Capstone Coordinator Holly Grieves. The objectives achieved during the Doctoral Capstone Experience include:

1. Student will complete a program proposal for the Outdoor Community Based Rehabilitation Program at Oroville Hospital by week 12.
2. Student will conduct interviews with 2-3 rehab hospitals currently providing outdoor based rehabilitative programs to patients by week 4.
3. Student will create a liability waiver in collaboration with Oroville Hospital stakeholders by week 6.

4. Student will determine funding sources for project including billable treatment, grants and or hospital funding by week 10.
5. Student will identify potential community partners and cost per program activity by week 12.
6. Student will complete 150 hours of patient contact time by week 14

Learning activities for Objective 1, 4, and 5 included researching program proposal formats, determining billable treatments in collaboration with Oroville Hospital billing department, researching hourly pay rate for staff, researching equipment costs, determining outdoor program activities, creating a budget document, determining the overall cost per program activity, selecting applicable grants, determining potential community partners, and creating a program proposal document. Learning activities for Objective 2 included creating interview templates and conducting interviews with the Casa Colina Hospital Adventure Program manager, the Craig Hospital Adventure Alumni Program Manager, and a previous employee of the Craig Hospital Adventure Program. Learning activities for Objective 3 included researching liability waiver formats and creating a liability waiver in collaboration with Oroville Hospital stakeholders. Learning Activities for Objective 6 included communicating with onsite Occupational Therapists, establishing a schedule for patient contact days, and assisting Occupational Therapists with patient care.

### **Implications of Capstone**

The results of my culminating Doctoral Capstone Experience include a comprehensive program proposal document that can be utilized as the framework for implementation of an

Outdoor Based Community Rehabilitation Program (see Appendix A). Oroville Hospital was undergoing changes throughout my Doctoral Capstone Experience, including building a new hospital facility and experiencing challenges with funding the new hospitals completion. During week four of my Capstone Project the Home Health Rehab Department was discontinued in an effort to cut costs, and some therapists transitioned to new facilities. Due to the unique circumstances at my site, it was not appropriate to propose a new rehab program while traditional programs were being discontinued. The results of my project may be utilized at Oroville Hospital in the future, or I may propose the program at a site of my future employment.

### **Conclusion**

The Results of my Doctoral Capstone Experience include a literature review providing the evidenced based rationale for the project. A comprehensive program proposal for an Outdoor CBR Program. Subsequent components of the program proposal include the referral processes, reimbursement/billing procedures, program activities, program staffing, background on CBR approaches, a comparison on similar hospital-based programs, outreach methods, proposed grant funding sources, proposed community partners, liability waivers and budget outlines for each activity (See appendices A and B). Prior to completing the program proposal, I spent extensive time researching hospital based outdoor rehabilitation programs and I conducted interviews with the program managers and staff of Craig Hospital's Adventure Alumni Program and the Casa Colina Hospital's Adventure Program to gain a better understanding into the logistical operations and funding sources for these well-established programs. Over the course of the fourteen-week DCE I spent more than 150 hours with three

Occupational Therapists and assisted them in treatment to better understand the patient population that the program would serve. Due to extenuating circumstances at the site and the extensive time requirements for grant funding application and approval, I was unable to implement my program within a fourteen-week period. However, the results of my project may be utilized at Oroville Hospital in the future if grant funding is obtained and the program is provided approval by hospital management.

Developing new programs in well-established hospital systems is not an easy task. It requires extensive planning, identifying the need or gap that the program would fill and providing effective dissemination of program logistics. Most importantly it requires support from upper-level management, adequate funding sources and a minimal budget deficit for program activities. Programs of this nature often produce a budget deficit rather than a surplus unless substantial program costs are passed on to the consumers or patients in the program. The well-established programs of Craig Hospital and Casa Colina Hospital both benefit from their location in high population density areas and serve a patient population that is primarily mid to high socio-economic status. Both hospitals also benefit from large hospital-based foundations that fund the majority of program costs, while only passing on minimal fees to their patients. Patients who are unable to afford the program costs can apply for hospital-based scholarships that cover up to 100% of patient expenses.

While the benefits of outdoor community-based rehab programs are well documented, more rigorous quantitative and longitudinal research studies are needed to solidify the evidence base, and consistent terminology must be utilized when referring to these programs. While this project was not research based, it is recommended that any future research studies

use the terminology of “Outdoor Community Based Rehabilitation”, as this is the most consistent terminology found in the existing literature. Furthermore, it is imperative that prospective programs secure adequate grant or hospital-based funding prior to implementing such programs. All patients, regardless of socio-economic background deserve equal opportunities in their recovery from injury or disability. Natural environments provide innate opportunities and challenges that cannot be achieved in contrived indoor settings, and they allow patients to practice learned skills in real world contexts. Contemporary practice has started to rethink use of outdoor environments for advancing comprehensive rehabilitation outcomes for people with disabilities (Dorsch et al., 2016, Madsen, Nielsen, Oliffe, Handberg et al., 2021), and Occupational Therapists, Physical Therapists, and Speech Language Pathologists are well suited to utilize outdoor community based rehabilitative approaches (CBR) as an adjunct to traditional treatment.

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## Appendix A: Program Proposal

### **Program Description:**

The Outdoor Community Based Rehabilitation Program will operate within the outpatient rehab department of Oroville Hospital as an adjunct to traditional treatment. Program Activities will be offered one Saturday per month during Spring, Summer, and Fall.

### ***Referral Process:***

The program will be available to all patients currently receiving outpatient services through Oroville Hospital for Physical Therapy, Occupational Therapy, and/or Speech Language Pathology. Patient referral to the program will be at the discretion of the treating therapist, who will take into consideration the patient's diagnosis, endurance, and overall functional capacity to participate safely in the specified activity. (Patients will be required to pass a float test for all water-based activities prior to participation in the activity).

### ***Reimbursement/Billing:*** (Based on Medicare Standards)

The Patients insurance will be billed under group billing for one of the disciplines listed below. (If patients have 12 treatment sessions authorized for PT, OT, and or SLP, then each program outing they attend will count towards 1 of 12 of their overall treatment sessions within that discipline)

Physical Therapy: CPT CODE 97150 (Group Therapy)

Occupational Therapy: CPT CODE 97150 (Group Therapy)

Speech Language Pathology: CPT CODE 92508 (Group Therapy)

### ***Program Activities:***

Activity 1: Table Mountain waterfall hike

Activity 2: Lake Oroville Dam Walk

Activity 3: Sacramento River Float (Canoeing/Stand-Up Paddleboarding/Kayaking/Rafting)

Activity 4: Oroville Forebay (Canoeing/Stand-Up Paddle Boarding/Kayaking/Hydro Biking)

Activity 5: Sacramento River/Lake Oroville/Oroville Afterbay Fishing

***Staffing:***

Staffing for each program outing will consist of:

1 Physical Therapist

1 Occupational Therapist

1 Speech Language Pathologist

1 Rehab Aide

**Background On Outdoor CBR Approach:**

Over the last decades, research on the association between human health and natural environments has developed into an interdisciplinary research field, which is being carried out in many parts of the world (Zhang et al., 2017). According to previous research, natural environments have a positive impact on human health by reducing the time it takes to recover from stressful events, reducing mental fatigue, increasing social ties, and encouraging people to engage in more physical activities (Zhang et al., 2017, Jiang et al., 2014, Sullivan 2015, Holtan et al., 2015, Barton & Pretty, 2010). Contemporary practice has started to rethink use of outdoor environments for advancing comprehensive rehabilitation outcomes for people with disabilities (Dorsch et al., 2016, Madsen, Nielsen, Oliffe, Handberg et al., 2021).

In developed countries, conventional rehabilitation programs are typically delivered indoors, relying on health professionals who use state of the art equipment and measurement

tools to ensure effective rehabilitation. However, ever growing complexities for treating acute and chronic conditions demand progressive approaches, and everyday outdoor environments have emerged as affording additional avenues to providing rehabilitation. (Madsen, Nielsen, Oliffe, Handberg et al., 2021) Based on work of Malkmus (1989) and Velletutti and Drummett (1992); Hartley (1995) identified how rehabilitation occurring in a natural environment can be viewed as a philosophy of rehabilitation, an intervention strategy and as a guide to the content of intervention. As a philosophy it encompasses the value of real-life roles and responsibilities, and it emphasizes the development of social competence. As an intervention strategy it employs a top-down approach, identifying typical roles the person must fulfill and the competencies needed for this are then the target or content of intervention. This means that skills must be taught through actual experience and practiced in natural contexts wherever possible. (Shanahan et al., 2009; Hartley, 1995; Veletutti & Drummet, 1992; and Malkmus, 1989)

Community Based Rehabilitation (CBR) is a treatment approach that started in the 1970's with the aim of providing low tech rehabilitation services to persons with disabilities in low-income countries. It has since been adopted as a community development strategy that aims to promote, support, and implement rehabilitation activities at the community level and facilitate referrals to access more specialized rehabilitation services (Madsen, Hanberg, Jensen, Nielsen, 2021) In 2004, CBR was defined by the International Labor Organization (ILO), United Nations Education, Scientific and Cultural Organization (UNESCO) and The World Health Organization (WHO), as a strategy within general community development for the rehabilitation, equalization of opportunities, poverty reduction and social inclusion of all people

with disabilities. CBR is implemented through the combined efforts of people with disabilities themselves, their families, organizations and communities, and the relevant governmental and non-governmental health, education, vocational, social, and other services (World Health Organization, 2010) Reported CBR outcomes include increasing independence, improved mobility and enhanced social participation among people living with disabilities (World Health Organization, 2010). Concurrently, increasing awareness of the various health benefits for contact with outdoor environments has led to the growth of nature-based rehabilitation programs (Madsen, Nielsen, Oliffe, Handberg et al., 2021). Madsen (2021) highlights the documented health benefits of nature-based rehab programs include increased physical activity (Maas et al., 2008; Pretty et al., 2005) social connectedness (Hartig et al., 2014; Maas et al., 2009) enhanced mental well-being (Bolwer et al., 2010; Jakubec et al., 2016) and reduced stress levels (Kondo et al., 2018; Sahlin et al., 2015).

Outdoor settings have been widely recognized as health promoting contexts (Madsen, Hanberg, Jensen, Nielsen, 2021; World Health Organization, 2016; Bowler et al., 2010), adding physical, social, and mental health benefits for people with disabilities (Zhang et al., 2017; Jakubec et al., 2016). This information has resulted in more nature-based initiatives for this population. However, these initiatives are primarily provided in formalized outdoor settings and lack an inclusive community approach. (Madsen, Hanberg, Jensen, Nielsen, 2021; Moeller et al., 2018) Madsen, Hanberg, Jensen and Nielson (2021) conducted a systematic review of qualitative articles on nature-based rehabilitation initiatives and the CBR approach and their analysis revealed four central themes, which included ability to overcome challenges, outdoor adaptive activities, inclusive social communities, and a culture of reciprocal interaction. Their

findings indicated that participants with disabilities experienced that their ability to overcome challenges was empowered by CBR approaches in outdoor settings. The empowering experiences depended on support and social engagement from professionals to reinforce beliefs and a desire to regain loss of functioning.

Overall involvement in CBR approaches in outdoor settings seemed to positively influence the functional capacity of people with disabilities. Rather than dwelling on their disability, they attempted to constantly improve their level of functioning and learn new strategies. The confidence gained through engagement in the CBR in outdoor settings was suggested to extend beyond the program setting and be transferred to other aspects of life involving family, friends, and job opportunities. The adaptive aspects of outdoor activities were obtained through support and availability of professionals and use of assistive devices. Involvement in outdoor adaptive activities was demonstrated to help participants adjust to the dramatic life changes caused by disability and to provide new life opportunities. The change to an outdoor setting, seemed to underpin and strengthen comprehensive and holistic orientation to the delivery of CBR approaches and outdoor settings empowered people with disabilities to play a more active role in their rehabilitation, but also repositioned professionals to be sources of help rather than experts in the interaction. In order for individuals to obtain an independent and meaningful life, it is essential to learn how to cope with and overcome possible challenges in environments that are comparable to what they would encounter in everyday life (Madsen, Hanberg, Jensen, Nielsen, 2021). In a qualitative study using Social Determination Theory for analysis and interpretation of results, Andkjaer (2021) concluded that outdoor health promotion and rehabilitation programs are successful in promoting self-perceived health

through increased competence, autonomy, and relatedness for adults with mental or chronic physical health problems. Moving away from a purely health professional approach and including other elements embedded in “being and doing in nature”, seems to be a good way to address people in local health promotion and rehabilitation programs.

***Health Benefits: Physical, Mental and Social.***

A systematic review by Zhang et al., (2017) evaluated the scientific evidence for health benefits of natural environments for people with mobility impairments. Literature searches based on five categories of terms included target group, nature type, health related impacts and nature related activities and accessibility issues were conducted in four databases, which included Web of Science, Scopus, CAB ABSTRACT and Medline. Twenty-seven articles from 4196 hits were included in the systematic review and included quantitative, qualitative, and mixed-method studies. Zhang et al., (2017) states, according to research, natural environments have a positive impact on human health by reducing the time it takes to recover from stressful events, reducing mental fatigue, increasing social ties, and encouraging people to engage in more physical activities (Zhang et al., 2017, Jiang et al., 2014, Sullivan 2015, Holtan et al., 2015, Barton & Pretty, 2010). While the research has not yet determined causality, it can be inferred that the collective amount of research evidence confirms that both visual and physical contact with natural environments is beneficial to human health. Current research also suggests that there are synergies between human health and natural environments based on for example, demonstration of the greater health effects of being physically active in a natural environment compared with being physically active indoors (Zhang et al., 2017; Hug et al., 2009).



**Physical Health Benefits.** Zhang et al., (2017) highlights numerous studies that indicate the physical health benefits of engaging with natural environments for individuals with disabilities. Two studies pointed out that participating in nature related activities improved the target groups overall life skills as well as the skills needed to participate in the activities. An SCI patient who participated in sea kayaking experienced improved strength and stamina. Nature based activities such as canoeing are believed to be an ideal therapeutic approach for individuals with disabilities to acquire and perform various skills in a naturally complex functional setting. In five studies, Parkinson's disease (PD) patients improved their mobility measured as a change in their symptom indicators and these benefits were usually more significant than rehabilitation activities carried out in non-nature environments. PD patients also experienced health benefits such as improved cardio-respiratory capacity with significantly lower and stable heart rate and blood pressure during exercise. These benefits appeared immediately following the activity and many of the benefits transferred into lasting effects in the patient's subsequent daily life. Some of the researchers believed that long term health benefits may be due to the lifestyle change that led the patients to be more physically active, or that they were due to the patients improved self-confidence and self-motivation after having participated in physically challenging activities in natural environments. Also, there is a view that nature reduces some illness-related symptoms by acting as a space that conveys no danger compared to the human-built environment. This is based on the result that freeze of gait (FOG) symptoms in PD participants are only absent in natural environments where there are no human-built structures (Zhang et al., 2017).

**Mental Health Benefits.** Zhang et al., (2017) references various studies that indicate the mental benefits for individuals with disabilities participating in natural environments. Participants in three studies expressed better mood and relaxation after participating in nature-based activities. Elderly patients with varying mobility levels were less stressed after time spent in an outdoor natural garden environment than the control group who spent the same amount of time in an indoor garden environment as evidenced by reduction of cortisol levels. In other studies participants expressed pain relief, improved cognition, and a sense of freedom and revitalization after spending time in nature. In three studies participants frequently expressed that they felt enslaved by illness but realized after participation in the activities that they could in fact accomplish things despite their disabilities. SCI patients who participated in a sea kayaking program expressed that the feeling of being free from their wheelchair afforded them feelings of equality. They believed that the experience made them more capable of coping with difficult circumstances and that it was a good way to reduce stress, build self-confidence and self-esteem. In another study adolescents with limb differences who participated in a skiing program achieved better self-esteem by acknowledging what they could accomplish despite their disabilities (Zhang et al., 2017).

**Social Health Benefits.** Based on 5 studies, Zhang et al., (2017) describes the social benefits of engaging in nature-based activities for individuals with disabilities. The social benefits associated with fishing were found to be significantly higher for anglers with disabilities compared to anglers without disabilities. These benefits were associated with disability status rather than other demographic information such as age. Individuals with disabilities participating in a wilderness canoeing trip demonstrated significant improvement in social

health, including increased tolerance of others, increased comfortability when meeting new people, and increased involvement in society. Gardening programs enhanced social interactions and communication skills for a variety of groups. A case study of an amputee in Norway expressed that he enjoyed socializing with people after reconnecting with nature following an extended stay in a nursing home and hospital. When engaging in outdoor activities such as skiing, participants may experience increased social health due to the support that is provided by families and friends. The body of research suggests that nature is an ideal setting for social interactions and activity engagement (Zhang et al., 2017)

### **Background on Similar Programs**

#### ***Craig Hospital Adventure Alumni Program:***

Craig Hospital's Adventure Program offers unique opportunities for travel, sports, and outdoor recreation. They offer a range of activities for Craig Alumni and current patients including scuba diving, hand cycling, fishing, hunting and horseback riding. The programs range from local cycling races to exotic trips like Roatan to scuba dive. They've gone horseback riding in the Rocky Mountains and taken cruises to the Caribbean and Alaska. The powerful impact of this program brings together newly injured individuals and alumni to create lasting friendships and peer relationships.

#### ***Casa Colina Hospital Adventure Program:***

Casa Colina's Therapeutic Recreation and Outdoor Adventures program empowers people with disabilities by creating opportunities through challenging and exciting outdoor activities. Emphasizing ability over disability, the program lets participants experience success both

physically and emotionally. Outdoor Adventures utilizes the natural world to create unique opportunities where people with disabilities can:

- Participate in day trips and adventures
- Enjoy a sense of community with others
- Gain self-confidence by experiencing success through acquiring new skills
- Share new outdoor experiences and adventurous activities with people of all abilities

Since 1985, the Outdoor Adventures program at Casa Colina Hospital and Centers for Healthcare has successfully and safely provided adventure experiences to thousands of people with varying disabilities, providing freedom without boundaries. It is the fulfillment of Casa Colina's goal for all its rehabilitation clients: full participation and enjoyment of life.

<b>Comparison of Programs</b>	<b>Craig Hospital Adventure Alumni Program</b>	<b>Casa Colina Hospital Adventure Program</b>
<b>Program Funding/Reimbursement</b>	Craig Foundation, (Grants, Private donations.) Currently producing \$250,000 per year in direct adventure programming. For 2023, they are planning to offer 145+ days of adventure programming including single day and or multi day trips.	Casa Colina Foundation (grants and private donations)
<b>Patient Referral Process</b>	No direct referral process. Outpatients and Graduates typically begin participating in programming in their communities and in the Adventure Program one to two years after Inpatient treatment. Most OP and Grads access Adventure Programming through Craig	No direct referral process. Patients typically begin in inpatient and then are offered to transfer to the transitional living program (TLC). The Adventure program is housed within the TLC

	Hospital website and social media. Patients are provided a calendar of adventure programs upon DC from IP.	
<b>Staffing Programs/Reimbursement</b>	Primarily Recreation Therapists and Adaptive Sports Specialists, however OT's, PT's, SLP's do attend some programs and occasionally bill as a co-treatment with Recreational Therapist.	Recreation Therapists, Adaptive Sports Specialists, PT's, OT's, SLP's. There is currently no billing or reimbursement for services.
<b>Patient Population</b>	Primarily SCI and TBI patients/participants. There are occasionally some patients classified as comorbidity with cardiovascular, neurological disorders and progressive illnesses.	Primarily SCI and TBI patients. The wheelchair sports program, which is housed within the Adventure Program, also serves patients with Cerebral Palsy and Traumatic Injuries.
<b>Program Activities</b>	<p><u>Single Day Adventures:</u> Paddling, Cycling, Fly Fishing, Sailing, Community Gardening, Target Shooting, Archery, Yoga, Rock Climbing, Ice Fishing, Cross Country Skiing, Equestrian, Sled Hockey, Ice Skating, etc.</p> <p><u>Multi Day Adventures:</u> Mountain Biking, Camp/Rafting, Camping, Hawaii Surf, Scuba Diving, Fishing Float, Cruises, Discover D.C., Alpine Skiing, Manatee Snorkel, Hunting, etc.</p>	Adaptive sailing, Santa Ana River Fishing, Kayak Bonelli, Handcycling, Wheelchair Sports programs, Bowling and Community Integration, Joshua Tree Climbing, Adaptive Surfing, etc.
<b>Contracting with Outside Agencies</b>	Adaptive Adventures, Denver Parks and Recreation, National Sports Center for the Disabled, A-1 Scuba & Travel Aquatics Center, Access Surf, Access Unlimited, River Deep, Denver Botanic Gardens, University of Colorado, University of Utah, Craig H Neilson Rehab	Sailing USA in Long beach, Stoneman Climbing, Walk on Water Surfing, etc.

	Hospital, Colorado Adaptive Sports Center, California Parks and Wildlife, Oregon Adaptive Sports, Denver Divers, Operation TBI Freedom, etc.	
<b>Patient Transportation</b>	Transportation services offered for local/regional programs. Identification for transportation services provided for “Destination Programs”. Patients/participants can apply for scholarships through Craig Hospital Foundation.	Transportation services are provided for inpatients and community members participating in program activities. Reimbursement is also available for patients using public transit.
<b>Liability Waivers</b>	Craig Hospital does not require patients/participants to sign liability waivers. Patients/participants are often required to sign liability waivers for community partners hosting the program/event.	Patients are required to receive a doctor’s waiver, as well as sign Liability Waivers through Casa Colina Hospital in order to participate in adventure programming.
<b>Outcome Measures</b>	No official assessment battery to track patient/program progress. There is currently a pre and post program survey.	No official assessment battery to track patient/program progress.
<b>Patient to Staff Ratio</b>	The standard for most adventure programs is to have 2-3 Recreation Therapists and 8-14 patients/participants. OT’s, PT’s and SLP’s do participate in program outings with patients, but this is not the standard.	Patient to staff ratio is typically 1 staff for every 4-5 patients.
<b>Frequency of Activity Programming</b>	1 multi-day trip per month, 6–8-day programs per month	Varies depending on the time of year, but typically 4-6 program activities per month

**Outreach Methods:**

Patients will be notified of the Outdoor Based Community Reintegration Program upon their initial evaluation. Patients who are interested in participating in the program will be provided an informational handout with upcoming program dates and activities. Brochures for advertising the program will be placed in the waiting room.

**Program Site:**

The program site will rotate depending on the activity programming. Proposed sites include Table Mountain, Lake Oroville Dam, the Sacramento River, the Oroville forebay/afterbay, and lake Oroville.

**Program Budget:**

Cost is based on a 2-hour activity with 12 patients (4 from each discipline), 3 therapists (1 from each discipline) and one rehab aide. Reimbursement is based on group therapy reimbursement rates for Medicare. Hourly pay rate for staff is based on median average pay for Butte County on Salary.com.

**Activity 1: Table Mountain Waterfall Hike**

	Physical Therapy (2-hour rate)	Occupational Therapy (2-hour rate)	Speech Language Pathology (2-hour rate)	Rehab Aide (2-hour rate)	<b>Total:</b>
Staffing Cost:	\$102.18	\$101.31	\$94.64	\$36.46	<b>\$334.59</b>
Medicare Reimbursement (Group Therapy, 4 patients)	\$74.56	\$74.56	\$100.56	\$0	<b>\$249.68</b>
Equipment/Gas Cost					<b>*\$50</b>
Total Activity Cost:					<b>\$134.91</b>

\*Equipment breakdown: Gas (\$50)

**Activity 2: Lake Oroville Damn Walk**

	Physical Therapy (2-hour rate)	Occupational Therapy (2-hour rate)	Speech Language Pathology (2-hour rate)	Rehab Aide (2-hour rate)	<b>Total:</b>
Staffing Cost:	\$102.18	\$101.31	\$94.64	\$36.46	<b>\$334.59</b>
Medicare Reimbursement (Group Therapy, 4 patients)	\$74.56	\$74.56	\$100.56	\$0	<b>\$249.68</b>
Equipment/Gas Cost					<b>*\$50</b>
Total Activity Cost:					<b>\$134.91</b>

\*Equipment breakdown: Gas (\$50)

**Activity 3: Sacramento River Paddling (Canoeing/SUP boarding)**

	Physical Therapy (2-hour rate)	Occupational Therapy (2-hour rate)	Speech Language Pathology (2-hour rate)	Rehab Aide (2-hour rate)	<b>Total:</b>
Staffing Cost:	\$102.18	\$101.31	\$94.64	\$36.46	<b>\$334.59</b>
Medicare Reimbursement (Group Therapy, 4 patients)	\$74.56	\$74.56	\$100.56	\$0	<b>\$249.68</b>
Equipment/Gas Cost:					<b>*\$683</b>
Total Activity Cost:					<b>\$767.91</b>

\*Equipment Rental breakdown: 7 SUP Boards (\$308), 5 Canoes(\$325), Gas(\$50)

**Activity 4: Oroville Forebay (Canoeing/SUP Boarding/Kayaking)**



	Physical Therapy (2-hour rate)	Occupational Therapy (2-hour rate)	Speech Language Pathology (2-hour rate)	Rehab Aide (2-hour rate)	<b>Total:</b>
Staffing Cost:	\$102.18	\$101.31	\$94.64	\$36.46	<b>\$334.59</b>
Medicare Reimbursement (Group Therapy, 4 patients)	\$74.56	\$74.56	\$100.56	\$0	<b>\$249.68</b>
Equipment/Gas Cost					<b>*\$683</b>
Total Activity Cost:					<b>\$767.91</b>

\*Equipment Rental breakdown: Gas (\$50), 5 Canoes (\$325), 2 Kayaks (\$88), 5 SUP Boards (\$220)

**Activity 5: Sacramento River/Lake Oroville/Oroville Afterbay Fishing**

	Physical Therapy (2-hour rate)	Occupational Therapy (2-hour rate)	Speech Language Pathology (2-hour rate)	Rehab Aide (2-hour rate)	<b>Total:</b>
Staffing Cost:	\$102.18	\$101.31	\$94.64	\$36.46	<b>\$334.59</b>
Medicare Reimbursement (Group Therapy 4 patients)	\$74.56	\$74.56	\$100.56	\$0	<b>\$249.68</b>
Equipment/Gas Cost					<b>*\$400</b>
Total Activity Cost:					<b>\$484.91</b>

\*Equipment Purchase breakdown: Gas (\$50), 12 Fishing Poles (\$300), Fishing Lures/Supplies (\$50)

\*\*Patients are responsible for purchase of fishing license

**Proposed Grants:**

California Health Care Foundation

California Wellness Foundation

Christopher and Dana Reeve Foundation

Coca-Cola Community Foundation

Challenged Athletes Foundation

Brain Injury Association of America

National Association of Park Foundation

American Stroke Foundation

REI Foundation

**Proposed Community Partners:**

Adventure Outings

Forebay Aquatic Center

California State University, Chico

Butte College

Cast Hope Fly Fishing

Chico Area Recreation District (CARD)

Feather River Recreation and Parks District

**Appendix B: Liability Waiver****RELEASE AND WAIVER OF LIABILITY AGREEMENT**

I, \_\_\_\_\_

("Participant"), acknowledge that I have voluntarily requested to participate in the following activities with Oroville Hospitals Outdoor Community Reintegration program.

Activity 1: Table Mountain waterfall hike

Activity 2: Lake Oroville Dam Walk

Activity 3: Sacramento River Float (Canoeing/Stand-Up Paddle boarding/Kayaking/Rafting)

Activity 4: Oroville Forebay (Canoeing/Stand-Up Paddle Boarding/Kayaking/Hydro Biking)

Activity 5: Sacramento River/Lake Oroville/Oroville Afterbay Fishing

Participant must pass a float test for participation in all water-based activities

**I AM AWARE THAT THESE ACTIVITIES COULD BE HAZARDOUS ACTIVITIES AND THAT I COULD BE SERIOUSLY INJURED OR EVEN KILLED. I AM VOLUNTARILY PARTICIPATING IN THESE ACTIVITIES WITH KNOWLEDGE OF THE DANGER INVOLVED, AND I AGREE TO ASSUME ANY AND ALL RISKS OF BODILY INJURY, DEATH, OR PROPERTY DAMAGE, WHETHER THESE RISKS ARE KNOWN OR UNKNOWN.**

**I verify this statement by placing my initials here: \_\_\_\_\_**

**Parent or Guardians initials (if under 18): \_\_\_\_\_**

**I forever release Oroville Hospital, Any third party partnering organizations, employees and volunteers from any and all actions, claims, or demands that I, my assignees, heirs, distributees, guardians, next of kin, spouse and legal representatives now have, or may have in the future, for injury, death, or property damage related to (i) my participation in these activities, (ii) the negligence or other acts, whether directly connected to these activities or not, and however caused, by any Releasee, or (iii) the condition of the premises where these activities occur. I also agree that I, my assignees, heirs, distributees, guardians, next of kin, spouse and legal representatives will not make a claim against, sue, or attach the property of any Releasee in connection with any of the matters covered with the foregoing release.**

**I HAVE CAREFULLY READ THIS AGREEMENT AND FULLY UNDERSTAND ITS CONTENTS. I AM AWARE THAT THIS RELEASE OF LIABILITY IS A CONTRACT BETWEEN MYSELF, OROVILLE HOSPITAL, OROVILLE HOSPITAL EMPLOYEES, AND**

**ANY THIRD-PARTY ORGANIZATION PARTNERING WITH OROVILLE HOSPITAL  
AND SIGN THIS DOCUMENT OF MY OWN FREE WILL.**

**If signed by a parent or legal guardian: I verify that the dangers of the activities  
and significance of this release and waiver were explained to the participant  
and that the participant understood them.**

<b>PARTICIPANT/RELEASOR</b>	<b>PARENT OR GUARDIAN</b>
<b>Print:</b>	<b>Print:</b>
<b>Sign:</b>	<b>Sign:</b>
<b>Date:</b>	<b>Date:</b>

**IF YOU ARE UNDER 18 YEARS OF AGE, YOU AND YOUR PARENT OR GUARDIAN  
MUST SIGN AND INITIAL THIS FORM WHERE INDICATED.**